

Date: Wednesday, 11/03/2009 9:53:16 AM  
 User: Chantal Lavoie

## Process Sheet

SPHIT-1

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SADDLE BILLET
Job Number : 46410 -1	
Estimate Number : 10033	
P.O. Number :	Part Number : D6101003
This Issue : 11/03/2009 S.O. No. :	Drawing Number : D6101 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : PURCHASED PARTS	Drawing Revision : A
Previous Run : 34873	Material :
Written By :	Due Date : 18/09/2009 Qty: 300 Um: Each
Checked & Approved By : <u>C209103/11</u>	
Comment : Est. A: 01.05.04 New Issue EC	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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Comment: PURCHASING

Issue P/O: 8393C209103/13

a) Description: Alluminum billet

b) 7.875" x 6.250" x 2.00" thick

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 7.875" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

300

2.0	D6101003P	7075-T7351 2X6.25X7.875
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 300.0000 Each(s)  
 7075-T7351 2X6.25X7.875

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

5088 09104/02

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6101

SA 09104/02

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Wednesday, 11/03/2009 9:53:17 AM  
User: Chantal Lavoie

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE BILLET

Job Number: 46410

Part Number: D6101003

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *CNE*

*SA 09/04/02*

6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

*09/04/03*

Job Completion



*C209/04/03*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

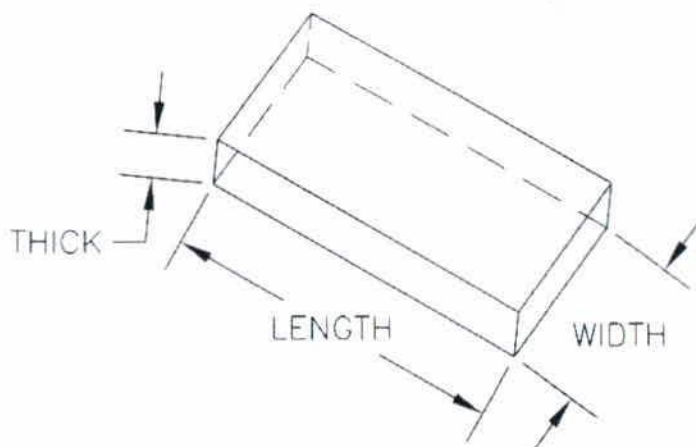




DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED [Signature]	DRAWING NO. D6101	Rev. A SHEET 1 OF 1
DATE 01.03.30		TITLE SADDLE BILLET, 7075	SCALE NTS
A	01.03.30	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
01 04 23 [Signature]



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 46410

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length

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**Castle Metals®**

A. M. Castle &amp; Co.

**BORDEREAU DE MARCHANDISES**

Page 1 of 1

No de Formulaire d'Emballage / Pack Slip No: 2341873

<b>Expédié de / Ship From:</b>		<b>Vendu à / Sold To:</b>		<b>Expédié à / Ship To:</b>		<b>Livré à / Deliver To:</b>	
Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date d'expédition / Date Shipped</b>	<b>F.O.B.</b>	<b>Modalités de transport / Freight Terms</b>		<b>Transporteur / Carrier</b>	<b>N° du Bon de connaissance / BOL No</b>	<b>N° de livraison / Delivery No</b>	
01-APR-09	ORIGIN	Prepaid		MANITOULIN	4879-2	2341873	

<b>Détails d'expédition / Shipment Details</b>	<b>Destination finale / Final Destination Branch - MON</b>
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N° de commande / Order No	N° de ligne Line No	N° d'article / Item No	Description			
181571	2	6857.MO	2.0000.PL.7075.T7351.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 6.25 IN ( ) X 7.875 IN ( )			
N° de bon de commande / Purchase Order No		Nbre de pièces / Part Number	Qté commandée / Ordered Qty	Qté Facturée / Invoice Qty	Solde à livrer / Backorder Qty	
Error 8393			50 PCS	50 PCS		
Détails / Details						
Usine / Mill	No de coulée / Heat Number	Code méc / Mech Id	Pièces / PCS	Largeur (Pouce)/ Width (IN)	Longueur (Pouce)/ Length (IN)	Qté expédiée/ Shipped Qty (LBS)
	440615A3		50			497.38

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.  
These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Ce matériel a été reçu et inspecté par  
This material has been received and inspected by:

Date:



## SHIP TO:

A M CASTLE & CO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4132944

## SOLD TO:

AM CASTLE & CO- SOLD TO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

CUSTOMER PO NUMBER: 01-48261		WORK PACKAGE:	CUSTOMER PART NUMBER: 6857 A97075-60		SHIP RUN/LOAD ID: 101310/15	GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1068623	LINE ITEM: 1	SHIP DATE: 20-JUN-2008	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: MILL FINISH PLATE	
WEIGHT SHIPPED: 6752 LB	QUANTITY: 4 PCS EST.	B/L NUMBER: 2018282		GAUGE: 2.0000 IN	WIDTH: 48.500 IN	LENGTH: 144.500 IN	

### Certified Specifications

AMS 4078/RevG  
ASTM B 209/Rev07  
BSS 7055/RevA  
DPS 4.713/RevAH  
GSS16100/RevG

AMS-QQ-A-250/12  
ASTM B 594/Rev06  
CMMP 025/RevR  
EAC MS1011/RevE  
MMS 159/RevN

AMS-STD-2154  
BAC 5439/RevH  
CSTI 006/RevC  
GAMPS 9101/RevB  
PS 21211/RevK

Test Code: 4297

### Test Results

Lot: 440514A8 Cast 170

Drop 21

Ingot 5

(ASTM E8/B557)

Tensile: Temper  
T7351Dir / # Tests  
LT / 2 (Min:Max)Ultimate KSI (MPA)  
74.7 : 74.8  
(515 : 516)Yield KSI (MPA)  
62.4 : 62.8  
(430 : 433)Elongation %  
11.6 : 11.9

(ASTM E1004)

Conductivity %IACS :  
(MS/M) :40.4 Min  
23.4 Min40.5 Max  
23.5 Max

(ASTM E1251)

Chemistry:  
Actual

SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
0.09	0.16	1.5	0.03	2.5	0.20	5.7	0.03	0.01	0.01	TOT 0.04

CASTLE METALS CORP  
DATE RCVD 6/24/08  
IAC 6857  
APPROVED BY A

**KAISER  
ALUMINUM**Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586**CERTIFIED TEST REPORT**Serial Number  
4132944

Lot: 440615A3 Cast 170 Drop 11 Ingot 1

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.4 : 73.6 (506 : 507)	61.5 : 62.0 (424 : 427)	11.9 : 12.2

(ASTM E1004)

Conductivity %IACS :	41.1 Min	41.3 Max
(MS/M) :	23.8 Min	24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.08	0.17	1.5	0.01	2.4	0.20	5.6	0.03	0.01	0.01	TOT 0.05

**ALLOY LIMITS**

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

**Aluminum Remainder****TEST NOTES**

Metal represented by this test report was immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.

**CERTIFICATION**

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A , AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR**
